# F&N 205 – Food Science I – Syllabus, Fall 2009

**Instructor:** Charles R. Santerre, Ph.D.  
E-mail: santerre@purdue.edu  
Office: Stone, ph. 496-3443  
Office Hours: Tuesday, 10:30-11:20 a.m. or by appt.

**TA:** Alicia Stube  
E-mail: astube@purdue.edu  
Office: G-54 Stone Hall, ph. 494-8412  
Office Hours: Friday, 3:30-4:30 am or by appt.

**TA:** Minghua Tang  
E-mail: tangm@purdue.edu  
Office: 310 Matthew, ph. 765/337-7572  
Office Hours: Monday, 10:30-11:30 am or by appt.

**Student Project Instructor:**  
Mario Ferruzzi, Ph. D.  
E-mail: mferruzz@purdue.edu  
Office: 3233 Food Science, ph. 49-40625

## F&N Support Staff: Jan Buckles  
Office: 221 Stone Hall

**Required**  
*On-reserve in Hicks Undergraduate Library.*

<table>
<thead>
<tr>
<th>Week</th>
<th>Lecture: Tuesday 12:30-1:20 p.m. Location: BCHM 105</th>
<th>Lab: Tuesday 8:30-11:20 a.m. or 2:30-5:20 p.m. or Wednesday 8:30-11:20 a.m. or 1:30-4:20 p.m. Location: STON 229</th>
<th>Lecture: Thursday 12:30-1:20 p.m. Location: BCHM 105</th>
<th>Lab: Thursday 8:30-10:20 a.m. or 2:30-4:20 p.m. or Friday 8:30-10:20 a.m. or 1:30-3:20 p.m. Location: STON 229</th>
</tr>
</thead>
</table>
| 8/24 | Course Introduction  
Sensory Evaluation  
Text: pp. 3-12; 21-43  
Temperature & Specific Heat  
Text: pp. 51-67  
No Lab | Water  
Text: pp. 71-89  
Beverages  
Text: pp. 90-106  
No Lab | Water crystallization - frozen desserts  
Lab Manual 21-29 | |
| 8/31 | Sugars, Sweeteners and Confections  
Text: pp. 118-135  
Solutions & Frozen Desserts  
Text: pp. 107-117  
Lab Introduction  
Heat and Measurement  
Sensory Evaluation  
Lab Manual 1-14  
Beverages  
Lab Manual 15-20  
Fats and Oils  
Text: pp. 243-279; 269-279  
Water crystallization - frozen desserts  
Lab Manual 21-29 | Bioactive Components of Foods  
Dr. Mario Ferruzzi  
Use of oil as heat transfer medium  
Lab Manual 53-59  
Student Projects Assigned | | |
| 9/7 | Fats and Oils (continued)  
Sugar crystallization - sugar cookery  
Lab Manual 30-39  
Effect of temperature on concentration & supersaturation of sugar solutions  
Bioactive Components of Foods  
Dr. Mario Ferruzzi  
Use of oil as heat transfer medium  
Lab Manual 53-59  
Student Projects Assigned | | | |
<table>
<thead>
<tr>
<th>Week</th>
<th>Lecture: Tuesday 12:30-1:20 p.m. Location: BCHM 105</th>
<th>Lab: Tuesday 8:30-11:20 a.m. or 2:30-5:20 p.m. or Wednesday 8:30-11:20 a.m. or 1:30-4:20 p.m. Location: STON 229</th>
<th>Lecture: Thursday 12:30-1:20 p.m. Location: BCHM 105</th>
<th>Lab: Thursday 8:30-10:20 a.m. or 2:30-4:20 p.m. or Friday 8:30-10:20 a.m. or 1:30-3:20 p.m. Location: STON 229</th>
</tr>
</thead>
</table>
| 9/14 | Starch  
Text: pp. 139-155  
Cereals  
Text: pp. 162-174 | Composition of fats & oils  
Emulsions: salads & salad dressing  
Effects of stabilizers & emulsifiers  
Lab Manual 40-52 | No Lecture | Starches  
Lab Manual 124, 132-139 |
| 9/21 | **EXAM 1**  
(Includes all lectures and labs prior to exam)  
Bring lab book for grading | Cereals  
Lab Manual 125-131 | Introduction to Proteins  
Text pp. 295-307  
Milk  
Text: pp. 308-324 | Ice Cream Processing Plant - Field Trip  
Bring lab coats and hair covers |
| 9/28 | Milk (continued)  
Cheese  
Text: pp. 325-340 | Milk: Effect of acid, rennin, heat, and carrageenan on denaturation and coagulation  
Dairy  
Lab Manual 60-65  
Hot chocolate  
Lab Manual 68-71 | Eggs  
Text: pp. 341-367  
**Student Project Due:** Topic, including: hypothesis, objectives, variables, and copy of reference article  
(Stone Rm. 205 by 5 pm sharp) | Dairy – Whipped toppings  
Lab Manual 66-67  
Cheese & cheese cookery  
Lab Manual 72-80 |
| 10/5 | Meat  
Text: pp. 368-436  
Poultry  
Custard & Egg thickened products  
Lab Manual 81-90 | Poultry (continued)  
Seafood  
Text: pp. 426-436 | Omelets, soufflés and meringues  
Effects of additives on whipped egg foams  
Lab Manual 91-96 |
| 10/12 | October Break | October Break | No Lecture | No Lab |
| 10/19 | **Student Project Due:** Market Order & Part I  
(Stone Rm. 205 by 5 pm sharp) | Meat - Dry heat cookery  
Lab Manual 105-109  
Fish cookery  
(continued)  
Food Preservation & Foodborne Pathogens  
Text: pp. 64-65  
USDA: Complete Guide to Canning | Meat identification  
Primal & retail cuts  
Lab Manual 97-104 |
| 10/26 | No Lecture | Meat - Moist heat cookery  
Lab Manual 110-114  
Gelatin  
Lab Manual 120-123  
**LAB QUIZ – Retail and Wholesale Meat ID and cooking method. Also, fatty acids, sucrose, glucose, fructose and dipeptide chemical structures.** | No Lecture | Meat Plant Tour  
Dr. Mickey Latour  
Bring lab coats and hair covers |
<table>
<thead>
<tr>
<th>Week</th>
<th>Lecture: Tuesday 12:30-1:20 p.m.</th>
<th>Lab: Tuesday 8:30-11:20 a.m. or 2:30-5:20 p.m. or Wednesday 8:30-11:20 a.m. or 1:30-4:20 p.m.</th>
<th>Lecture: Thursday 12:30-1:20 p.m.</th>
<th>Lab: Thursday 8:30-10:20 a.m. or 2:30-4:20 p.m. or Friday 8:30-10:20 a.m. or 1:30-3:20 p.m.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Location: BCHM 105</td>
<td>Location: STON 229</td>
<td>Location: BCHM 105</td>
<td>Location: STON 229</td>
</tr>
<tr>
<td>11/16</td>
<td>No Lecture</td>
<td>Canning &amp; freezing Lab Manual 205-206</td>
<td>EXAM II (Includes from Exam 1 to this exam) Bring lab book for grading</td>
<td>No Lab</td>
</tr>
<tr>
<td></td>
<td>Student Project Due: Parts I &amp; II (Stone Rm. 205 by 5 pm sharp)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11/23</td>
<td>No Lecture</td>
<td>No Lab</td>
<td>Thanksgiving Break</td>
<td>Thanksgiving Break</td>
</tr>
<tr>
<td>12/14-12/19</td>
<td>Comprehensive Final Exam (date, time and location to be determined)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>